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OM nucleic - nucleic search, using sw model

Run on: June 17, 2003, 11:16:03 ; Search time 239.981 Seconds
(without alignments)
10331.847 Million cell updates/sec

Title: US-09-807-933B-4

Perfect score: 1101

Sequence: 1 atgaagcttactactattac.....caggtgtcagaagaataa 1101

Scoring table: IDENTITY NUC

Gapop 10.0, Gapext 1.0

Searched: 2185239 seqs, 112599159 residues

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

N Geneseq 101002:*

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2: /SIDS2/gcgdata/geneseq/geneeqn-emb1/NA1981.DAT:*
3: /SIDS2/gcgdata/geneseq/geneeqn-emb1/NA1982.DAT:*
4: /SIDS2/gcgdata/geneseq/geneeqn-emb1/NA1983.DAT:*
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23: /SIDS2/gcgdata/geneseq/geneeqn-emb1/NA2001B.DAT:*
24: /SIDS2/gcgdata/geneseq/geneeqn-emb1/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1101	100.0	1101	21	AAA62727
2	1101	100.0	1101	24	AAI43245
3	763	69.3	1017	21	AAA62726
4	763	69.3	1017	24	AAI43244
5	519	47.1	1083	21	AAA62728
6	519	47.1	1083	24	AAI43246
7	421.2	38.3	1043	21	AAA62732
8	421.2	38.3	1043	24	AAI43250
9	390.2	35.4	1164	21	AAA62730

10	390.2	35.4	1164	24	AAI43248
11	367.4	33.4	1017	21	AAA62729
12	367.4	33.4	1017	24	AAI43247
13	289.6	26.3	1041	21	AAA62731
14	289.6	26.3	1041	24	AAI43249
15	194.2	17.6	1473	13	AAQ14857
16	194.2	17.6	1473	13	AAQ26407
17	194.2	17.6	1473	13	AAQ26382
18	194.2	17.6	1473	13	AAQ25933
19	194.2	17.6	1473	13	AAQ29935
20	194.2	17.6	1473	13	AAQ49942
21	194.2	17.6	1473	16	AAQ26019
22	194.2	17.6	1473	13	AAV16103
23	192.6	17.5	1473	14	AAQ41733
24	190	17.3	984	19	AAV16105
25	181.2	16.5	1423	17	AAV19049
26	178	16.2	927	17	AAV19062
27	177.8	16.1	960	17	AAV19047
28	177.8	16.1	1132	17	AAV19053
29	177.2	16.1	928	19	AAV15074
30	176.8	16.1	894	17	AAV19061
31	174.4	15.8	922	19	AAV15073
32	166.4	15.1	922	19	AAV15072
33	166	15.1	1154	17	AAV19048
34	163.8	14.9	913	17	AAV19051
35	162	14.7	885	17	AAV19075
36	161.6	14.7	915	19	AAV15075
37	158.8	14.4	1174	17	AAV19050
38	158.8	14.4	1174	19	AAV19096
39	154.6	14.0	1261	19	AAV23748
40	151.6	13.8	925	19	AAV15076
41	150.4	13.7	1058	13	AAQ26405
42	150.4	13.7	1060	13	AAQ14856
43	150.4	13.7	1060	13	AAQ26380
44	150.4	13.7	1060	13	AAQ25932
45	150.4	13.7	1060	13	AAQ29934

ALIGNMENTS

RESULT 1

AAA62727

ID AAA62727 standard; DNA; 1101 BP.

XX

AC AAA62727;

XX

DT 25-SEP-2000 (first entry)

XX

DE Endoglucanase nucleotide sequence 2.

XX

KW Endoglucanase: cellulose breakdown; produce pulp; papermaking;

KW animal foodstuff; ss.

XX

OS Rhizopus oryzae.

XX

PN WO200024879-A1.

XX

PD 04-MAY-2000.

XX

PF 25-OCT-1999; 99WO-JP05884.

XX

PR 23-OCT-1998; 98JP-0302387.

XX

PA (MEIJU) MEIJU SEIKA KAISHA LTD.

XX

PI Nakamura Y, Moriya T, Baba Y, Yanai K, Sumida N, Niehimura T;

PI Murakami K, Morikane A, Yaguchi T, Koga J, Murakami T, Kono T;

DR WPI; 2000-365117/31.

DR P-PSDB; AAB09822.

XX

PT Endoglucanases of fungal origin with high activity under alkaline


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Db      188 CTGGAAGCAGTGGCAATTAATCTCTGAAAGTCTCACAGAAAGACTACCACTGCTGCTC 247
Qy      376 -----ACTACCACTGCTCCCTAGAAATTA 403
Db      248 ACAAGAGAAGACTACACCGCTGCTCATMAAAGACTACCTGCTCTGTAAGAAAGACTA 307
Qy      404 CAACTACTGCAAGAGTTCAAACTCTTCTAAGTCT-----AGCGGCAAAATACT 451
Db      308 CAACCTGTCGCAAGAGTTCACCCCTTCTAAGTCTGCTGTAAGTCCAGCGGCAAAATATT 367
Qy      452 CCATTGCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 511
Db      368 CCGCTGCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 427
Qy      512 AGGCTCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 571
Db      428 AGGCTCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 487
Qy      572 AGATGAGTGTGCTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 631
Db      488 AGATGAGTGTGCTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 547
Qy      632 GTTACATGTGTAAAGCAACAGCTGCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 691
Db      548 GTTACATGTGTAAAGCAACAGCTGCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 607
Qy      692 CTGCTGCTGCAATGAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 751
Db      608 CTGCTGCTGCAATGAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 667
Qy      752 CTTCATCTTCTACCTGCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 811
Db      668 CTTCATCTTCTACCTGCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 727
Qy      812 GTTATCTTGTGCTCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 871
Db      728 GTTATCTTGTGCTCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 787
Qy      872 GTTATCTTGTGCTCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 931
Db      788 GTTATCTTGTGCTCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 847
Qy      932 AGGCTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 991
Db      848 AGGCTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 907
Qy      992 GTTAAATGAGATTCAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 1051
Db      908 GTTAAATGAGATTCAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 967
Qy      1052 TTACCTGTCCAGAAATCAACGCGCAAGACAGGTTGTTCAAGAAATTA 1101
Db      968 TTACCTGTCCAGAAATCAACGCGCAAGACAGGTTGTTCAAGAAATTA 1017

RESULT 4
ID      AAL43244 standard, DNA; 1017 BP.
AC      AAL43244;
XX      22-AUG-2002 (first entry)
DE      Rhizopus arrhizus endoglucanase-related coding sequence 1.
XX      Rhizopus arrhizus endoglucanase-related coding sequence 1.
KM      Zygomycetes-originated endoglucanase; cellulose binding domain;
XX      fibre processing; waste paper de-inking; paper pulp; ds; gene.
OS      Rhizopus arrhizus.
XX      WO200242474-A1.
PN      30-MAY-2002.
XX      PD

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XX      21-NOV-2001; 2001WO-JP10188.
PF      21-NOV-2000; 2000JP-0354296.
XX      (MEIJU) MEIJU SEIKA KAISHA LTD.
XX      Nakane A, Baba Y, Koga J, Kubota H;
XX      WPI; 2002-471729/50.
DR      P-PSDB; AAO15052.
XX      Cellulose-binding domain-lacking Zygomycetes-originated endoglucanase,
XX      with effect of endoglucanase activity enhanced in processing fibers,
XX      detinking waste paper and improving freeness of paper pulp
XX      Example 10; Page 56-58; 109pp; Japanese.
XX      The invention comprises the amino acid and coding sequences of
XX      zygomycetes-originated endoglucanase enzymes lacking the cellulose
XX      binding domain. The zygomycetes-originated endoglucanase enzymes of the
XX      invention have enhanced endoglucanase activity. The zygomycetes-
XX      originated endoglucanase enzymes of the invention are useful for
XX      processing fibres, de-inking waste paper and improving the freeness of
XX      paper pulp - which is particularly applicable in detergent compositions.
XX      The present DNA sequence represents an endoglucanase-related gene
XX      sequence of the invention.
SQ      Sequence 1017 BP; 240 A; 250 C; 235 G; 292 T; 0 other;

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Query Match      69.3%; Score 763; DB 24; Length 1017;
Best Local Similarity 90.3%; Pred. No. 3.7e-221;
Matches 858; Conservative 0; Mismatches 35; Indels 57; Gaps 2;

Qy      209 CTTCGATGTAGCAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 268
Db      68 CTGCGATGTAGCAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 127
Qy      269 GTTGGCAATCTGATTCACCTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 328
Db      128 GTTGGCAATCTGATTCACCTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTA 187
Qy      329 CTGAAAGCAATGGGCAATTAATCTGTAAGCGCTCTAATAACGACT----- 375
Db      188 CTGGAAGCAATGGGCAATTAATCTGTAAGCGCTCTAATAACGACT----- 375
Qy      376 -----ACTACCACTGCTCCGCTAGAAATTA 403
Db      248 ACAAGAGAAGACTACACCGCTGCTCATMAAAGACTACCTGCTCTGTAAGAAAGACTA 307
Qy      404 CAACTACTGCAAGAGTTCAAACTCTTCTAAGTCT-----AGCGGCAAAATACT 451
Db      308 CAACCTGTCGCAAGAGTTCACCCCTTCTAAGTCTGCTGTAAGTCCAGCGGCAAAATATT 367
Qy      452 CCATTGCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 511
Db      368 CCGCTGCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 427
Qy      512 AGGCTCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 571
Db      428 AGGCTCTCTGAGTGTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 487
Qy      572 AGATGAGTGTGCTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 631
Db      488 AGATGAGTGTGCTGCTCTGTAAGTGTGCTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 547
Qy      632 GTTACATGTGTAAAGCAACAGCTGCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 691
Db      548 GTTACATGTGTAAAGCAACAGCTGCTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 607
Qy      692 CTGCTGCTGCAATGAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 751
Db      608 CTGCTGCTGCAATGAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGTGTGTAAGT 667

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QY 752 CTTTCACTTACCTGCTGCTGTAAGAGATGTTATCCAGTCACTACAGTGGTG 811
 DB 668 CTTTCACTTACCTGCTGCTGTAAGAGATGTTATCCAGTCACTACAGTGGTG 727
 QY 812 GTGATCTTGGCTGCTGCTGTAAGAGATGTTATCCAGTCACTACAGTGGTG 871
 DB 728 GTGATCTTGGCTGCTGCTGTAAGAGATGTTATCCAGTCACTACAGTGGTG 787
 QY 872 GTATTTTCAATGTTGCTCCAGCAATGGGGTCTCCCAATGAGCGTTGGGGCTCGAGAT 931
 DB 788 GTATTTTCAATGTTGCTCCAGCAATGGGGTCTCCCAATGAGCGTTGGGGCTCGAGAT 847
 QY 932 AGCGTGGATTTCTTTCGATCTGATGCTGATGCTTCCGCACTCCAGCTGGT 991
 DB 848 AGCGTGGATTTCTTTCGATCTGATGCTGATGCTTCCGCACTCCAGCTGGT 907
 QY 992 GTAAATGAGATTCACCTGTTCAAGACGCTGATTAACCAAGCATGACTTACAGAGAG 1051
 DB 908 GTAAATGAGATTCACCTGTTCAAGACGCTGATTAACCAAGCATGACTTACAGAGAG 967
 QY 1052 TTACTGCTCCAGAGAAATCACCGCCAGACAGAGTTGTTCAAGAAATTA 1101
 DB 968 TTACTGCTCCAGAGAAATCACCGCCAGACAGAGTTGTTCAAGAAATTA 1017
 RESULT 5
 AA62728
 ID AA62728 standard; DNA; 1083 BP.
 AC AA62728;
 XX
 DT 25-SEP-2000 (first entry)
 XX
 DE Endoglucanase nucleotide sequence 3.
 XX
 KM Endoglucanase: cellulose breakdown; produce pulp; papermaking;
 KM animal foodstuff; ss.
 XX
 OS Rhizopus oryzae.
 XX
 PN MO200024879-A1.
 XX
 PD 04-MAY-2000.
 XX
 PF 25-OCT-1999; 99MO-JP05884.
 XX
 PR 23-OCT-1998; 98JP-0302387.
 XX
 PA (MEIJI) SEIKA KAISHA LTD.
 XX
 PI Nakamura Y, Moriya T, Baba Y, Yanai K, Sumida N, Nishimura T;
 PI Murashima K, Nakane A, Yaguchi T, Koga J, Murakami T, Kono T;
 XX
 DR WPI: 2000-365117/31.
 DR P-PSDB; AAB09823.
 XX
 PT Endoglucanases of fungal origin with high activity under alkaline
 PT conditions for production of paper pulp and animal feedstuffs -
 PS
 PS Claim 44; Page 113-115; 180bp; Japanese.
 XX
 CC This sequence encodes an endoglucanase protein. The invention relates
 CC to an endoglucanase of fungal origin which can completely break down
 CC purified cellulose at a concentration of less than 1mg protein/litre,
 CC and produces more than 50% breakdown of cellulose at pH 8.5. The
 CC invention includes endoglucanase protein sequences (see
 CC AA62726-A62732) and primers (AA62733-A62802) which are used in the
 CC identification of the endoglucanase sequences, and in the construction of
 CC vectors containing the poly-nucleotides. The endoglucanase enzymes are
 CC used for the production of pulp for papermaking and for the production of
 CC animal foodstuffs.

XX
 SQ Sequence 1083 BP; 260 A; 297 C; 231 G; 295 T; 0 other;
 Query Match 47.1%; Score 519; DB 21; Length 1083;
 Best Local Similarity 69.7%; Pred. No. 4.9e-147;
 Matches 772; Conservative 0; Mismatches 305; Indels 30; Gaps 4;
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 DB 1 ATGAAGTTATTTACTATTACTCTTCCGCTCTGAGCTCGCCCTGGTACTGAATG 60
 QY 61 GCTCTGCTGCTAAATGATGACAGCTGATGTCATGTGTGTGTAAGACTGGAATG 120
 DB 61 GCCATGCTGCTGATGATGATGACAGCTGATGTCATGTGTGTGTAAGACTGGAATG 120
 QY 121 CTTACTTGTGCAATGTGATGACCTG-----TAAATGACCAAGTACTACTCT 174
 DB 121 CTTACTTGTGCAATGTGATGACCTG-----TAAATGACCAAGTACTACTCT 180
 QY 175 CAATGTCTGCTGCTGAAAGCAAGCGCATTAAGTCTTGAATGTAGCAAGTTGATGT 234
 DB 181 CAATGTCTGCTGCTGAAAGCAAGCGCATTAAGTCTTGAATGTAGCAAGTTGATGT 240
 QY 235 CAATGTGTGTGTAAGACTGGAATGCTTACTTGTGCAATGTGATGACCTGTA 294
 DB 241 ACTGAGGTGCAAGAAAGACTACACTTAAGGTTCGAAGAAAGCAAGCACTACTGAA 300
 QY 295 GTAAAGCAAGTACTACTGCAATGTCTTGTGCTGCTGCAAGCAATGCAATTA 354
 DB 301 GCTCTTAAGAAAGCAAGCACTACTGAAAGTTCGAAGAAAGCAAGCACTACT 351
 QY 355 GAAAGCGCTGATTAAGCAAGCACTACTGCTGCTGCTGCAAGAAATTAAGCACTAG 414
 DB 352 GAAAGCGCTGATTAAGCAAGCACTACTGCTGCTGCTGCAAGAAATTAAGCACTAG 399
 QY 415 AAACCTTCAAACTCTTCACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 474
 DB 400 ACTTCTCTTCTCTTCTTCTGCTTCAAAAGTACTGCTGCTGCTGCTGCTGCTGCT 459
 QY 475 GGTAAAGGTGCTACTACTCTGTTATGGAATGCTGTAAGGCTCTGTAGTGGCCGG 534
 DB 460 GGTAAAGGTGCTACTACTCTGTTATGGAATGCTGTAAGGCTCTGTAGTGGCCGG 519
 QY 535 AAGGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 594
 DB 520 AAGGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 576
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 DB 577 GATTAACAACACTGAAAGCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 636
 QY 655 CTTGGGCTGTAAGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 714
 DB 637 CTTGGGCTGTAAGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 696
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 DB 697 AGCGAGCTACTTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 756
 QY 775 GGTAAAGATGTTATCAAGTCACTAAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 834
 DB 757 GGTAAAGATGTTATCAAGTCACTAAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 816
 QY 835 GCTCACTTGTGCTGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 894
 DB 817 GCTCACTTGTGCTGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 876
 QY 895 CAATGGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 954
 DB 877 CAATGGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 936
 QY 955 GACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1014

Db	121	CGTACCTGCTGGAATCTGCGCTTACTTCGCTTGATTAATCTGACAAATCCTTTCTACTCC	180
Qy	175	CAATGCTTGTCCCGCAGAAAGCAAGGCAATTAAGCTTCTGAAATGTAGCAATTGATAGT	234
Db	181	CAATGCTTGTCCCGCAGAAAGCAAGGCAATTAAGCTTCTGAAATGTAGCAATTGATAGT	240
Qy	235	CAATGCTTGTAGAGACTGGAATGGCCCTTACTTTGGTGCATATCTGGATCACCCTGTAA	294
Db	241	ACTGAAGTGGCCAAAGAAAGACTACCACTACTAAGGTTTCAAGAAAGACACCACTACTGAA	300
Qy	295	GTAAAGCAAGATTACACTCTCAATAGTCTTGCCCGCTGAAGAAAGCAATGSCAATAAATCTTCT	354
Db	301	GCTCTTAAGAAAGCAAGCACTACTAGAGTTTCAAGAAAGACCC-----ACCACTACT	351
Qy	355	GAAGCGCTCATTAACCACTACTACCTACTGCTCCCGCTAAGAAATTAAGAAATTAACACTGCC	414
Db	352	GAACCTCTTAAGAAAGCAAGCACTACTACTAAGAAAGCT-----TCACTCC	399
Qy	415	AAAGCTTCAAACTCTTCACTCTAGAGGCAATTAAGCTTCTGCTGCTGCTCTCT	474
Db	400	ACTTCTCTTCTCTTCTTCTGCTTCTAAGAACTACTCGCTGCTCTGAGTGGCTCC	459
Qy	475	GTAAAGGCTGCTACTACTGCTTAAATGGATTTGCTGAAGGCTCTGAGTGGCCCGGT	534
Db	460	GGTAAATGTTGAACCACTCGCTACTGGGATTTGTTGAACCTTCTTGCAATTTGGCCGGT	519
Qy	535	AAAGCAATGTCACTTCTCTGCTCAAGTCTCTGAAGAAAGATGTTGCTACTGCTTACT	594
Db	520	AAAGCTGATGTACCTCTCCCTGTTGGCTCTCTGAAGAAAGATGTTGACT---CTTGCT	576
Qy	595	GAACCAATGTCTCAAGATGCTGTAAAGCTGTGAACGTTTAACTGAATGTGAAGCAAGCAAG	654
Db	577	GATTAACAACTCAAGAAAGGCTGTGTTGGTGAAGCAAGCTTAACTGTAAATGAATGA	636
Qy	655	CTTTGGGCTGTAAAGCAATCTTGGCTATGTTGCTGCTGCTGCTCACTAGTGGTGT	714
Db	637	CTTTGGGCTGTAAAGCAAGCACTTGGCTTAAAGCTTGGCTGCTTCAATTTCTGTTGT	696
Qy	715	GTGAATCTCGCTGCTGCTTCTGTTTGAATCTTCACTTCACTTCACTGTTGCT	774
Db	697	AGCAAGCACTTGGTGTGCTGCTTCACTTCACTTCACTTCACTTCACTTCACTTCACT	756
Qy	775	GTGAAGATGTATTCAGATCTTAACTGATGATGATGATGATGATGATGATGATGATGAT	834
Db	757	GTGAAGATGTATTCAGATCTTAACTGATGATGATGATGATGATGATGATGATGATGAT	816
Qy	835	GCTCACTTGAATGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	894
Db	817	GCTCACTTGAATGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	876
Qy	895	CAATGGGCTGCTCCCAATGACGATGATGATGATGATGATGATGATGATGATGATGAT	954
Db	877	CAATGGGCTGCTCCCAATGACGATGATGATGATGATGATGATGATGATGATGATGAT	936
Qy	955	GACTGCTTGAATGCTTCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	1014
Db	937	GACTGCTTGAATGCTTCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	996
Qy	1015	AAAGAGCTGATTAACCAAGATGATGATGATGATGATGATGATGATGATGATGATGAT	1074
Db	997	AAAAAGCTGATTAACCAAGATGATGATGATGATGATGATGATGATGATGATGATGAT	1056
Qy	1075	GCCAAAGAGGTTGTTCAAGAAATTA	1101
Db	1057	GCCAAAGGTTGTTCAAGAAATTA	1083

DT 25-SEP-2000 (first entry)
 XX Endoglucanase nucleotide sequence 7.
 DE Endoglucanase; cellulose breakdown; produce pulp; papermaking;
 XX animal foodstuff; ss.
 XX Rhizopus oryzae.
 XX WO200024879-A1.
 PD 04-MAY-2000.
 XX 25-OCT-1999; 99WO-JP05884.
 PF 23-OCT-1998; 98JP-0302387.
 PR (MEIJ) MEIJI SEIKA KAISHA LTD.
 PA Nakamura Y, Moriya T, Baba Y, Yanai K, Sumida N, Nishimura T;
 PI Murashima K, Nakane A, Yaguchi T, Koga J, Murakami T, Kono T;
 XX WPI: 2000-365117/31.
 DR Endoglucanases of fungal origin with high activity under alkaline
 PT conditions for production of paper pulp and animal feedstuffs -
 XX
 PS Claim 44; Page 132-134; 180pp; Japanese.
 CC This sequence encodes an endoglucanase protein. The invention relates
 CC to an endoglucanase of fungal origin which can completely break down
 CC purified cellulose at a concentration of less than 1mg protein/litre,
 CC and produces more than 50% breakdown of cellulose at pH 8.5. The
 CC invention includes endoglucanase protein sequences (see
 CC AAB09825-809830), endoglucanase nucleotide sequences (see
 CC AA62726-462732) and primers (AA62733-462802) which are used in the
 CC identification of the endoglucanase sequences, and in the construction of
 CC vectors containing the polynucleotides. The endoglucanase enzymes are
 CC used for the production of pulp for papermaking and for the production of
 CC animal foodstuffs.
 CC
 XX Sequence 1043 BP; 212 A; 370 C; 291 G; 170 T; 0 other;
 SQ
 Query Match 38.3%; Score 421.2; DB 21; Length 1043;
 Best Local Similarity 72.4%; Pred. No. 2.4e-117;
 Matches 565; Conservative 0; Mismatches 203; Indels 12; Gaps 1;
 QY 334 AGCAATGGCAATTAATCTTGAAGCGCTCATTAACGACTACTGCTCCGCT 393
 DB 253 ACCGCTGCCAAGAGACGACGACCGCGCTCAAGAGACTACGACCGCTCCGCC 312
 QY 394 AAGAAATTACACTGCTCCCAAGCTTCAACTCTTACTTACGCGC----- 444
 DB 313 AAGAAGACACACCGCTCGCCCAAGGCTTCGACTCCGCTCAACTCGACGAGCTGCTTCG 372
 QY 445 ---AATATCTCATGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 501
 DB 373 GGAAGTACAGCGCTGTGACCGGTGCGCTAGCGGCAAGGGCTGACTACCGCTACG 432
 QY 502 GATTCTGTAAAGCGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 561
 DB 433 GACTGCTCAAGGCTTCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 492
 QY 562 TCTCTTAACAAAGATGTGTCTACGCTTACTGACAGCATATGTCGAAAGTGGCTGTAAC 621
 DB 493 TCTCTCAACAAAGAGAGCGCTCAACCGCTTACTGACAGCATATGTCGAAAGTGGCTGTAAC 552
 QY 622 GGTGTAAACAGTTACTGTGTAAAGCAACGAGCTGTGGCTGTAAAGATATCTTGGC 681
 DB 553 GCGGCACTCTTACATGTGTGAACGACACGAGCTGTGGCTGTGAACGACACTTGT 612
 QY 682 TATGTTTCTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 741

DB 613 TACGTTTCTGCTGCCGCTGCATTAGCGCGGTGCGAGAGCCGCTGCTGCTGCTG 672
 QY 742 TTGAACTTACTTCACTTCTACTCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 801
 DB 673 TTGAACTTACTTCACTTCTACTCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 732
 QY 802 AACACTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 861
 DB 733 AACACTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 792
 QY 862 GGTGTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 921
 DB 793 GGTGTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 852
 QY 922 GGTGTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 981
 DB 853 GGTGTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 912
 QY 982 CAAGCTGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 1041
 DB 913 CAGCGCGCTGCAAGTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCTGTGCT 972
 QY 1042 TACAAGAAATTACTCTGTGCCAAGAAATCACCCCAAGACAGGTTGTTCAAGAAATTA 1101
 DB 973 TACAAGAAATTACTCTGTGCCAAGAAATCACCCCAAGACAGGTTGTTCAAGAAATTA 1032
 RESULT 8
 AAL43250
 ID AAL43250 standard; DNA; 1043 BP.
 AC AAL43250;
 XX 22-AUG-2002 (first entry)
 DT Rhizopus arrhizus endoglucanase-related codon-optimised DNA sequence.
 DE Rhizopus arrhizus endoglucanase; cellulose binding domain;
 XX Zygomycetes-originated endoglucanase; waste paper de-inking; paper pulp; ds; gene.
 KW fibre processing; waste paper de-inking; paper pulp; ds; gene.
 XX
 OS Rhizopus arrhizus.
 OS Synthetic.
 PN WO200242474-A1.
 XX 30-MAY-2002.
 PD 21-NOV-2001; 2001WO-JP10188.
 XX 21-NOV-2001; 2001WO-JP10188.
 PF 21-NOV-2000; 2000JP-0354296.
 PR (MEIJ) MEIJI SEIKA KAISHA LTD.
 PA Nakane A, Baba Y, Koga J, Kubota H;
 PI WPI: 2002-471729/50.
 DR P-PSDB; AAO15052.
 XX Cellulose-binding domain-lacking Zygomycetes-originated endoglucanase,
 DR with effect of endoglucanase activity enhanced in processing fibers,
 XX deinking waste paper and improving freeness of paper pulp -
 XX Example 10; Page 84-86; 109pp; Japanese.
 PS The invention comprises the amino acid and coding sequences of
 XX Zygomycetes-originated endoglucanase enzymes lacking the cellulose
 CC binding domain. The zygomycetes-originated endoglucanase enzymes of the
 CC invention have enhanced endoglucanase activity. The zygomycetes-
 CC originated endoglucanase enzymes of the invention are useful for
 CC processing fibres, de-inking waste paper and improving the freeness of
 CC paper pulp - which is particularly applicable in detergent compositions.
 CC The present DNA sequence represents an endoglucanase-related gene
 CC sequence of the invention.

SX Sequence 1043 BP; 212 A; 370 C; 291 G; 170 T; 0 other;

Query Match 38.3%; Score 421.2; DB 24; Length 1043;
Best Local Similarity 72.4%; Pred. No. 2,4e-117;
Matches 565; Conservative 0; Mismatches 203; Indels 12; Gaps 1;

QY 334 AGCAATGGCAATTAATCTTGAAGGCTCATTAATAAGCATATACATACATGCTCCGCT 333
DB ACCGCTGCCCAAGACACACACGCGCTCAACAAAGACATACACGCTCCGCC 312
QY 394 AAGAAATTAACAATCTGCAAGCTTCAAGCTTCACTAGAGGCTCCGCTCCGCT 444
DB 313 AAGAAACCAAGACGCTGCAAGCTTCAAGCTTCACTAGAGGCTCCGCTCCGCT 372
QY 445 ---AAATACCTATGCTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 501
DB 373 GAAAGTACAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 432
QY 502 GATTGCTGAAGGCTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 561
DB 433 GACTGCTGAAGGCTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 492
QY 562 TCTGTAACAAAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 621
DB 493 TCTGTAACAAAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 552
QY 622 GGTGTAACATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 681
DB 553 GGTGTAACATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 612
QY 682 TATGCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 741
DB 613 TACGCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 672
QY 742 TTGCACTTACTTACTTACTTACTTACTTACTTACTTACTTACTTACTTACTTACTT 801
DB 673 TTGCACTTACTTACTTACTTACTTACTTACTTACTTACTTACTTACTTACTTACTT 732
QY 802 AACACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 861
DB 733 AACACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 792
QY 862 GGTGTAACATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 921
DB 793 GGTGTAACATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 852
QY 922 GGTGTAACATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 981
DB 853 GGTGTAACATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 912
QY 982 CAAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1041
DB 913 CAAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 972
QY 1042 TACAAAGAAATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1101
DB 973 TACAAAGAAATTAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1032

RESULT 9

AAA62730
ID AAA62730 standard; DNA; 1164 BP.

XX AAA62730;

DT 25-SEP-2000 (first entry)

XX Endoglucanase nucleotide sequence 5.

XX Endoglucanase; cellulose breakdown; produce pulp; papermaking;

KM animal foodstuff; ss.

OS Mucor circinelloides.

PN W0200024879-A1.

PD 04-MAY-2000.

PF 25-OCT-1999; 99WO-JP05884.

PR 23-OCT-1998; 98UP-0302387.

PA (MEIJU) MEIJU SEIKA KAISHA LTD.

PI Nakamura Y, Moriya T, Baba Y, Yanai K, Sumida N, Nishimura T;

PI Murashima K, Nakane A, Yasuchi T, Koga J, Murakami T, Kono T;

DR WPI; 2000-365117/31.

DR P-PSDB; AAB09825.

PT Endoglucanases of fungal origin with high activity under alkaline

PT conditions for production of paper pulp and animal feedstuffs -

PS Claim 44; Page 122-124; 180bp; Japanese.

This sequence encodes an endoglucanase protein. The invention relates to an endoglucanase of fungal origin which can completely break down purified cellulose at a concentration of less than 1mg protein/1litre, and produces more than 50% breakdown of cellulose at pH 8.5. The invention includes endoglucanase protein sequences (see AAB09825-B09830), endoglucanase nucleotide sequences (see AAB62726-A62732) and primers (AAB62733-A62802) which are used in the identification of the endoglucanase sequences, and in the construction of vectors containing the polynucleotides. The endoglucanase enzymes are used for the production of pulp for papermaking and for the production of animal feedstuffs.

Sequence 1164 BP; 272 A; 289 C; 266 G; 337 T; 0 other;

Query Match 35.4%; Score 390.2; DB 21; Length 1164;
Best Local Similarity 64.2%; Pred. No. 6.6e-108;
Matches 715; Conservative 0; Mismatches 308; Indels 90; Gaps 5;

QY 67 GCTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCT 126
DB 64 GCTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCT 123
QY 127 TGTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCT 180
DB 124 TGTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCT 183
QY 181 CTGCTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCT 240
DB 184 ATTCCCAACCCAGGCTTCTCTCATCATCATCATCATCATCATCATCATCATCATCAT 243
QY 241 GGTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGAT 294
DB 244 GGTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGAT 303
QY 295 GGTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGAT 354
DB 304 GGTGTAATGAGTGAAGCTATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGAT 363
QY 355 GAAAGGCTCATTAAGCACTACTACC----- 381
DB 364 GCTAGAGAGACCAAGAGACATCTACCAAGACATCTACCAAGAGCTACCTGCT 423
QY 382 -----ACTGCTCCGCTAAGAAATTAACA 408
DB 424 ACTGTAACCAAGAGACATCTACCAAGAGACATCTACCAAGAGCTACCTGCT 483
QY 409 ACTGTAACCAAGAGCTTCAACTCTTCACTTCAAGGCAATATCTCATGCTGCTGCTGCT 468
DB 484 ACTGCTCCGCTTCACTTCACTTCACTTCACTTCACTTCACTTCACTTCACTTCACTTCACT 543

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Qy 469 GCCTCTGTAAAGGTGCTACTGCTATTGGAATGCTGTAAGGCTCTGTAGCTGG 528
Db 544 AATCTGACAGTGGTTCACAACTGTTATTGGATGTTGTAAGCTTCTTGACGCTGG 603
Qy 529 CCCGTAAGCCAAATGTCAGTTCCTCTGCAAGTCTGTAAACAAGATGTCAGTCC 588
Db 604 CTTGAAAAGCTTCTGCTACTGCTCTGTTGACACCTTGCTCCAAATGATCTCT--- 660
Qy 589 CTTAGTGCACAGATGTCACAAAGTGGCTGTAAAGGCTGTAAACAGTTACATGTAAGAC 648
Db 661 TTATTAGATGCCAAATGCTCAAAAGTGGTTGTAACGGTGTAAATGTTATATGTAACAC 720
Qy 649 AACCAAGCTTGGGCTGTAAACGATATCTTGCTATGTTTCGCTGCTGCCATCAGT 708
Db 721 AACCAAGCTTGGGCTGTAAAGATGATGCTGCTTAAGTTTCGCTGCTGCCATATGCT 780
Qy 709 GGTGCTGTAATCTCGCTGCTGCTGTTCTGTTGCACTTACTTCACTTCACTCT 768
Db 781 GGTCTCAAGCAAGCTGATGCTGTTGCTGCTGTTATGAACTTCACTTCACTGCGCT 840
Qy 769 GTTGTGTGAAGATGCTGTTATCCAACTCACTCACTGATGCTGCTGCTCTCT 828
Db 841 GCTTCTGAAAGAAATGCTGTTGTTCAAGTTACCAACCGGCTGCGATTTAGGCTC--- 896
Qy 829 ACTGCTGCTCACTTGTGATTCCAATGCGCGTGGTGGTGTGATTTTCAATGCTTC 888
Db 897 -----TAACCACTTGTGATTTGCCAATGCGCGTGGTGGTGTGATTTTCAATGCTTC 951
Qy 889 TCCAAGCAATGCGGCTGCTCCCAATGCGGCTGCGGCTGCAAGACGCTGATTTCTCT 948
Db 952 GCTGCTCAATGCGGCTGCTCCCAATGCTGCGGCTGCAAGACGCTGATTTGCTGCTCT 1011
Qy 949 GCATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1008
Db 1012 GCTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1071
Qy 1009 TGTGTTCAAGAACTGATATACCAAGCAATGCTTCAAGAACTGATCTGCTCCAAAGAA 1068
Db 1072 TGTGTTCAAGAACTGATATACCAAGCAATGCTTCAAGAACTGATCTGCTGCTGCTGCT 1131
Qy 1069 ATCACCAGCAAGCAAGTGTGCTCAAGAAATTA 1101
Db 1132 TTAACCTACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1164

RESULT 10
AAL43248
ID AAL43248 standard; DNA; 1164 BP.
XX
AC AAL43248;
XX
DT 22-AUG-2002 (first entry)
XX
DE Rhizopus arrhizus endoglucanase-related coding sequence 5.
XX
KW Zymomyces-originate endoglucanase; cellulose binding domain;
XX fibre processing; waste paper de-inking; paper pulp; ds; gene.
XX
OS Mucor circinelloides.
XX
FN M0200242474-A1.
XX
PD 30-MAY-2002.
XX
PF 21-NOV-2001; 2001WO-JP10188.
XX
PR 21-NOV-2000; 2000JP-0354296.
XX
PA (MEIJ) MEIJI SEIKA KAISHA LTD.
XX
PI Nakane A, Baba Y, Koga J, Kubota H;
XX
DR MPI; 2002-471729/50.

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DR P-PSDB; AAO15056.
XX
PT Cellulose-binding domain-lacking Zymomyces-originate endoglucanase,
PT with effect of endoglucanase activity enhanced in processing fibers,
PT deinking waste paper and improving freeness of paper pulp -
XX
PS Disclosure; Page 75-78; 109pp; Japanese.
XX
CC The invention comprises the amino acid and coding sequences of
CC zymomyces-originate endoglucanase enzymes lacking the cellulose
CC binding domain. The zymomyces-originate endoglucanase enzymes of the
CC invention have enhanced endoglucanase activity. The zymomyces-
CC originate endoglucanase enzymes of the invention are useful for
CC processing fibres, de-inking waste paper and improving the freeness of
CC paper pulp - which is particularly applicable in detergent compositions.
CC The present DNA sequence represents an endoglucanase-related gene
CC sequence of the invention.
XX
SQ Sequence 1164 BP; 272 A; 289 C; 266 G; 337 T; 0 other;

Query Match 35.4%; Score 390.2; DB 24; Length 1164;
Best Local Similarity 64.2%; Pred. No. 6.6e-108;
Matches 715; Conservative 0; Mismatches 308; Indels 90; Gaps 5;

Qy 67 GCTCTAAATGATACCAAGCTGATGCTCAATGCTGCTGCTGCTGCTGCTGCTGCTGCT 126
Db 64 GCTCTCTTCTGACCTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 123
Qy 127 TGTTCGATGCTGATTCACCTGTAAGTAAGCAAGT-----TACTACTTCAATGT 180
Db 124 TGTTCGATGCTGATTCACCTGTAAGTAAGCAAGT-----TACTACTTCAATGT 183
Qy 181 CTTGCGCCCTGAAACCAACCGCAATGCTTCTGTAATGCTGCAAGTGTGATGCTGATGT 240
Db 184 ATTCACCAACCAACCGCTTCTCTCATCATCATCATCATCATCATCATCATCATCATCAT 243
Qy 241 GGTGTAAGGATGTAATGCGCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 294
Db 244 GGTGTAAGGATGTAATGCGCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 303
Qy 295 GTAAAGCAAGTACTACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 354
Db 304 GAAAGCAAGTACTACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 363
Qy 355 GAAAGCGCTCATTAAGCACTACTAC----- 381
Db 364 GCTGACAGCAACCAAGCAATCTCAAGCAATCTACTACTACTACTACTACTACTACTACTACT 423
Qy 382 -----ACTGCTCCGCTAAGCAATTAACAAT 408
Db 424 ACTGCTACCAACCAAGCAATCTACTACTACTACTACTACTACTACTACTACTACTACTACT 483
Qy 409 ACTGCAAAAGCTTCAAACTTCTTAACTTAACTTAACTTAACTTAACTTAACTTAACTTAACT 468
Db 484 ACTGCGGCTGCTTCACTTCACTTCACTTCACTTCACTTCACTTCACTTCACTTCACTTCACT 543
Qy 469 GCCTCTGTAACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 528
Db 544 AATCTGCAAGTGTGCTCAAACTGCTTATGGAATGCTTAAAGCTTCTTGACGCTGG 603
Qy 529 CCCGTAAGCCAAATGTCAGTTCCTCTGCAAGTCTGTAAACAAGATGTCAGTCC 588
Db 604 CTTGAAAAGCTTCTGCTACTGCTCTGTTGACACCTTGCTCCAAATGATCTCT--- 660
Qy 589 CTTAGTGCACAGATGTCACAAAGTGGCTGTAAAGGCTGTAAACAGTTACATGTAAGAC 648
Db 661 TTATTAGATGCCAAATGCTCAAAAGTGGTTGTAACGGTGTAAATGTTATATGTAACAC 720
Qy 649 AACCAAGCTTGGGCTGTAAACGATATCTTGCTATGTTTCGCTGCTGCCATCAGT 708
Db 721 AACCAAGCTTGGGCTGTAAAGATGATGCTGCTTAAAGTTTCGCTGCTGCCATATGCT 780
Qy 709 GGTGCTGTAATCTCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 768

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Oy 970 CCTTCGCACTCAAGCTGTTGTAATGAGATTCACTGCTTCAAGACGCTGATAC 1029
 Db 910 CCTACCCGATGTCAGGCTGGTTCAGATGAGATTTCGATGTCAGAACGCTGACAC 969
 Oy 1030 CCAAGCACTGACTTCAAGAGATTACCTGCTCCAGAGAAATCACCGCCAGACAGTTGT 1089
 Db 970 CCAAGGTCACCTTCAAGGCTGTTACTTGCCCTGCGGATCATTTGCCAGACGTTGTC 1029
 Oy 1090 TCAGAAATTA 1101
 Db 1030 GAGCGCAAGTAA 1041

RESULT 15

AAQ14857
ID AAQ14857 standard; DNA; 1473 BP.

AC AAQ14857;

DT 18-FEB-1992 (first entry)

DE Fusarium oxysporum DSM 2672 endoglucanase coding sequence.

KW cellulase; cellulose; ss.

OS Fusarium oxysporum.

Key Location/Qualifiers

FT CDS 97..1227

FT /*tag= a

XX MO9117243-A.

XX 14-NOV-1991.

XX 08-MAY-1991; 91WO-DK00123.

XX 22-APR-1991; 91DK-0000736.

XX 09-MAY-1990; 90DK-0001159.

XX (NOVO) NOVO NORDISK A/S.

XX Rasmussen G, Mikkelsen JM, Schulein M, Patkar SA, Hagen F;

PI Hjort CM, Hastrup S;

XX WPI; 1991-353765/48.

XX P-PSDB; AAR15272.

XX Cellulase prepn. comprising endoglucanase enzyme - used in

PT detergents for cellulose-contg. fabrics or to improve drainage of

PT paper pulp

XX Claim 11; Page 52; 67pp; English.

XX The cellulase (i.e. endoglucanase) gene was isolated from a

CC F.oxysporum cDNA library by screening with probes based on the

CC H. insolens 43kD endoglucanase sequence. Positive clones were

CC subjected to PCR amplification using 43kD-specific oligonucleotides

CC as primers. The amplified DNA was sequenced.

XX See also AAQ14856.

SO Sequence 1473 BP; 343 A; 453 C; 337 G; 340 T; 0 other;

Query Match 17.6%; Score 194.2; DB 12; Length 1473;
 Best Local Similarity 59.5%; Pred. No. 2.5e-48;
 Matches 372; Conservative 0; Mismatches 238; Indels 15; Gaps 2;

Oy 464 GTGGTCTCTGCTAAGCGTGTCACTACTCTTATTTGGATGCTGTAAAGGCTCTCTGTA 523
 Db 143 GTGGTCTCTGCTAAGCGTGTCACTACTCTTATTTGGATGCTGTAAAGGCTCTCTGCT 202
 Oy 524 GCTGCGCCGTAAGCGCAATGTCACTTCTCTGTCAAGTCTGTAAAGAGTGTGTCA 583

Db 203 CTTCGACGGAAAGGCTGCTGTCAAGCCCTGCTTTAACTTGTGATTAAGACACAACC 262
 Oy 584 CTGCGCTTAATGACAGCAATGTCCAAGTGGCTGTAAAGCTGTGTAAAGTATCTGTGTA 643
 Db 263 CCATTTCCAAACCAAAAGTGTCAACGGTTGTGAGGGTGTGTTGCTGTATGCTTGCA 322
 Oy 644 ACGACAACAGCCTTGGGCTGTAAAGCATATCTTGGCTATGTTTGGCTGCTGCTGCA 703
 Db 323 CCAACTACTCTCTGCGGTGTCAACGATAGCTTGTGCTTACGTTTGGCTGCTTCAAGA 382
 Oy 704 TCAGTGTGTGTGTAATCTGCTGTGTGCTGTGTTCTTGTGAACTTCACTTCACTTGA 763
 Db 383 TCTCGGTGTGCTCGAGGCGCAGCTGTGTGTGCTGTGCTTAACTTGAACCTTACACACTG 442
 Oy 764 CTTGTGTGTGTGTAAAGATGTGTATCCAAAGTCACTTAACTGCTGTGTGTGTGCT 823
 Db 443 GCGCGGTCAAGGGCAAGAAAGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 501
 Oy 824 CTTCTACTGT 883
 Db 502 -----GACAAACCACTTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 553
 Oy 884 GTTGTCTCAAGCAATGGGCTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT 943
 Db 554 GCTGACCTGT 607
 Oy 944 CTTGT 1003
 Db 608 CTTGT 667
 Oy 1004 TCACTGT 1063
 Db 668 TCGACTGT 727
 Oy 1064 AGGAATCACCGCCCAAGCAAGTTG 1088
 Db 728 AGGCTCTCTGACATCATGTGATG 752

Search completed: June 17, 2003, 11:49:00
 Job time : 245.148 secs

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